caring for children where legal judgements have been sought to withdraw LST.

G24(P) A SALTY ALLERGY

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Hyponatremia, unless associated with extracellular fluid volume expansion, is an uncommon paediatric electrolyte imbalance. We report an infant presenting with chronic hyponatremia suggestive of a syndrome of inappropriate secretion of antidiuretic hormone (SIADH); however without ADH secretion. In this case, a gain-of-function of AVPR 2 was found to be responsible for a SIADH-like state. Only very few cases have been reported in the literature.

A healthy 19 month old presented to his local hospital with a tonic-clonic seizure, demonstrating a sodium of 119 mmol/L. A few months prior, hyponatraemia was noted in the context of a lower respiratory tract infection, treated with a short course of sodium chloride supplementation with no further follow-up. Recently he was diagnosed with cow's milk protein allergy. His mother described him being a poor water drinker with infrequent wet nappies.

He was developing appropriately with no significant family or social history. He examined normally. Over 48 hours, he received six hypertonic (2.7%) saline boluses. His sodium remained refractory (116–122 mmol/L) and nephrology input was sought. Results showed serum osmolality of 250 mosm/L, urinary osmolality of 520 mosm/L and urinary sodium of 171 mmol/L. Chest radiograph was normal.

On transfer to tertiary nephrology services he was normotensive with unremarkable examination.

Investigations demonstrated:

Abstract G24(P) Table 1

Paired results	Blood	Urine
Sodium	119 mmol/L	137 mmol/L
Potassium	5.3 mmol/L	12.4 mmol/L
Creatinine	8 μ mol/L	0.9 mmol/L
Osmolality	252 mosm/L	387 mosm/L

*Paired results showed fractional sodium excretion of 1%

CT head, renal ultrasound and renin/aldosterone, cortisol, thyroid function were normal. Paired plasma and urine results suggested syndrome of inappropriate antidiuresis (SIADH). No secondary causes were apparent; thus nephrogenic syndrome of inappropriate antidiuresis (NSIAD) caused by gain of function mutation in AVPR2 was postulated.

Analysis of the AVPR2 gene confirmed this x-linked dominant disorder (mutation (c.409C>T)). Familial testing revealed his mother as a carrier, with subtle retrospective symptoms.

We suspect the patient had chronic asymptomatic hyponatremia, acutely exacerbated by full switchover to oat milk in view of allergies, which has little protein content. This lowered his tubular osmotic load and coupled renal water loss.

In conclusion, NSIAD can mimic SIADH and should be considered if no secondary cause found combined with a positive

family history; though this was initially lacking in our case. This is the first case we have diagnosed in our centre.

G25(P) HOW COMMON IS EXCHANGE TRANSFUSION WITHIN PAEDIATRIC INTENSIVE CARE

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Aims Exchange transfusion is becoming less frequently performed in neonatology. It is however still advocated in a myriad of paediatric disorders. Evidence describing the frequency of exchange transfusion within the paediatric population is limited.

This retrospective observational study aims to describe the epidemiology of exchange transfusion within UK and Irish Paediatric Intensive Care Units.

Methods Retrospective data was requested from the Paediatric Intensive Care Audit network (PICAnet) with regards to completed exchange transfusions within Paediatric Intensive Care Units (PICU) from the UK & Ireland between 2007 and 2015.

Results In total 559 exchange transfusions within UK and Irish PICUs were reported to PICAnet between January 2007 and December 2015. During this time 167,462 PICU admissions were also reported. This equated to an average of 62.1 exchange transfusions per year and an incidence of 3.3 exchange transfusions per 1000 PICU admissions.

During the study period, exchange transfusion rate varied by age, with: 16.1% occurring in neonates, 24.9% in non-neonates <2 years, 16.6% in 2–5 year olds, 27.2% in 5–12 year olds and 15.2% in >12 year olds.

The observed frequency of commonly recognised indications for all reported exchange transfusions were; Sickle cell disease 37.2%, pertussis 4.7%, neonatal jaundice 3%, leukaemia 3%, neonatal polycythaemia 0.4% and neonatal anaemia 0.2%. No exchange transfusions were performed for malaria. The indication for exchange transfusion was unclear in 41% whilst 10.6% of exchange transfusions occurred in a reported setting of solitary congenital heart disease.

90% of children requiring exchange transfusion within PICU survived to PICU discharge.

Conclusions Exchange transfusion was reported in 3.3 per 1000 UK and Irish PICU admissions between 2007 and 2015. The majority (41%) occurred in children under 2 years of age. The most common indication for exchange transfusion within PICU was sickle cell disease.

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G26(P) PAEDIATRIC INTENSIVE CARE SURVIVAL IN SEVERE PERTUSSIS REQUIRING EXCHANGE TRANSFUSION

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Aims Early exchange transfusion is advocated for the management of severe pertussis with leukocytosis. Little is known regarding survival rates within this population.